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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT : Daniel P. Topp
TITLE : APPARATUS FOR ERADICATING PESTS
APPLN. NO. : 10/651,583
FILING DATE : August 29, 2003
EXAMINER : David J. Parsley
ART UNIT : 3643
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P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER CFR § 1.132 OF JEFFREY S. HELMES

Dear Sirs:

I, Jeffrey S. Helmes, hereby declare that:

(A.) I graduated in 1992 from Drexel University (Philadelphia, PA) with a Bachelors of Science degree in Mechanical Engineering. I have been working continuously since 1992 in the mechanical engineering field and since 1996 in the field of HVAC (heating, ventilation & air conditioning). I am currently employed full-time as a Senior Project Engineer at Maguire Products, Inc. in Aston, PA.

(B.) I have studied and am familiar with the above-identified application, the Office Action dated October 13, 2004, and Patent No. 4,716,676 to Imagawa (hereinafter referred to as “Imagawa”). The Examiner alleges that Imagawa teaches the use of plenums and specifically that Imagawa discloses a ceiling and sub-ceiling that forms a plenum. Based on the Examiner’s interpretation of Imagawa, he alleges that such features anticipate Applicant’s invention.

(C.) Based on my experience in the HVAC (heating, ventilation and air conditioning) industry, it is my opinion that Imagawa does not disclose a plenum as used in the HVAC industry and, in fact, I am unable to discern what the Examiner is calling a sub-ceiling. The Examiner makes broad statements regarding the Figures of Imagawa but does not support his broad statements by referring to specific elements. As an example of the Examiner’s lack of locating elements, in Paragraph 4 of the Office Action the Examiner writes “Imagawa discloses an apparatus for eradicating pests comprising, a chamber having a first end, a second end, a left wall, a right wall, a ceiling, sub-ceiling, and a floor – see for example Figure 2 and 6-7, the ceiling and sub-ceiling forming a plenum.”

(D.) As will be discussed in the following paragraphs, it is my opinion that:

- a) Imagawa does not disclose either a ceiling plenum or a floor plenum;
- b) Imagawa discloses the use of hoods; and
- c) The teachings of Imagawa regarding the heating of items inside the chamber are contrary to the teachings of the present invention.

(E.) My opinion that Imagawa does not disclose a plenum as the term is used in the HVAC industry is based on a number of factors. First, if Imagawa intends to utilize a plenum, it would have been a simple matter of using the term “plenum.” Instead, Imagawa did not use the term plenum anywhere in the specification. Second, the Examiner’s description of a “plenum”

as an air-filled space (see paragraph 6 of the Office Action dated October 13, 2004) is overly simplistic and is not the definition of which I am familiar as used in the HVAC industry.

The term “plenum” is well known in the HVAC industry. A “plenum,” as used in the HVAC industry, is an enclosed portion of a ventilation system that delivers or receives air from a blower for distribution in a ventilation system. Preferably, a plenum is limited to uninhabited crawl spaces. See *Uniform Mechanical Code 2000*, Sections 601 and 602; and *1998 International Mechanical Code* Sections 602 and 1304.

I cannot find a plenum, as the term is commonly used in the HVAC industry, anywhere in Imagawa. If the Examiner had pointed out specifically with reference numerals what features he believes form a plenum in Imagawa, I could be able to directly dispute the Examiner’s interpretation.

(F.) As shown in Figures 1 and 3, Imagawa clearly utilizes a plurality of horizontally positioned hoods 10, 11. Each hood has a blower (10a, 10b, 10c, 11a, 11b, 11c, etc.) associated with it. In addition, Imagawa utilizes a plurality of “insect killing cells B” that include fruit stored in harvest boxes, impenetrable cover members 23, and vertically positioned hoods 21. Each vertically positioned hood 21 includes a differential fan 22 that force steam through the fruit and the harvest boxes. The hoods 21 are connected to a “winding means” 26, 27 that has its own support structures that are permanently affixed inside the chamber but are not labeled. Each insect killing cell B is designed to move over roller conveyors 16 at the bottom of the chamber.

A “duct system” may include ducts, plenums, fans, and accessory air-handling equipment. However, a “plenum” does not include fans, blowers, etc. Accordingly, the hoods 21 and associated fans 22 do not form a plenum and there are no other features in Imagawa that I would consider a “plenum.” For example, in Figure 7, a separate inner chamber is permanently

attached inside of the outer chamber A'. The inner chamber has a plurality of ventilation holes in its top and bottom, but there are no plenums as used in the HVAC industry.

(G.) Imagawa expressly states that its system is designed to deliver steam on a large scale to raw fruit. Further, the raw fruit is stacked in neat vertical columns so that each stack can be fitted with a hood.

Even using the Examiner's definition of plenum as an "air-filled space" would not be accurate in describing any volume illustrated in Imagawa since the spaces in Imagawa are filled with steam not air.

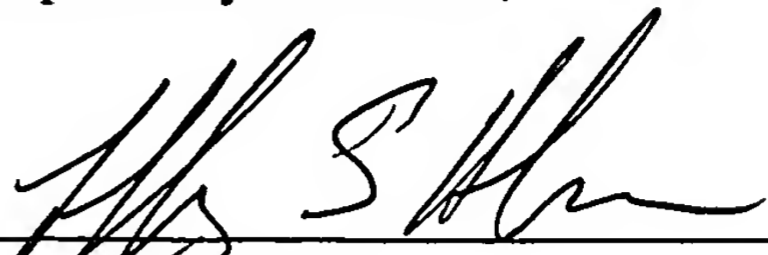
In order to prevent condensation of the steam and to meet various building codes, special passages are required. Imagawa requires the use of fitted hoods 21, with special fans 22, and flexible, impenetrable fabric 23. The impenetrable fabric 23 must be flexible so that the differential fan 22 can pull the fabric 23 close to the harvest boxes. (See Imagawa at Column 3, lines 43-54.)

The subject application uses a plenum to ensure that heated air is spread evenly over various items in order to be heat-treated. There are few similarities between a system that delivers steam and one that delivers heated air. To the best of my knowledge, no HVAC plenum is designed to deliver steam. For this reason alone, Imagawa does not disclose a plenum, and its teachings are contrary to the teachings of the subject application.

(H.) I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,

Date: 1/11/05



Jeffrey S. Helmes
Senior Project Engineer